Washington State
Department of Transportation

January 2008

Apprenticeship Utilization Advisory Committee Report

Overview and Contents

This report describes the effects of apprenticeship utilization requirements on construction contracts administered by the Washington State Department of Transportation. It also discusses the availability of apprentices and apprenticeship programs statewide.

Executive Summary

Background

During the 2005 Legislative Session, legislation was passed requiring all public works contracts estimated to cost $1 million or more to include a requirement that no less than 15 percent of the total labor hours on the contract be performed by registered apprentices. These apprentices must be enrolled in apprenticeship programs approved by the Washington State Apprenticeship and Training Council (WSATC). The legislation allowed the Washington State Department of Transportation (WSDOT) to phase in a 15 percent apprenticeship requirement on all contracts estimated to cost $2 million or more throughout a two-year period. The bill also called for the Secretary of Transportation to create and convene an Apprenticeship Utilization Advisory Committee to help guide the department's decision making in the development, implementation and administration of this program.

With the first quarter of the two-year implementation process completed, this report outlines the actions of the committee during this initial implementation period. The report also describes the effects to date of apprenticeship utilization requirements on construction contracts administered by WSDOT. It also discusses the availability of apprentices and apprenticeship programs statewide.

Implementation of Apprenticeship Requirements

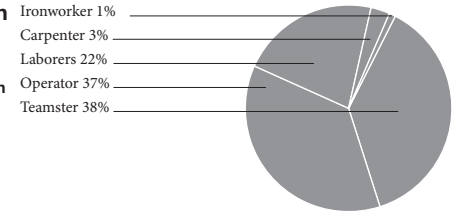
WSDOT and the Apprenticeship Utilization Advisory Committee worked well together to develop a program that supports the successful implementation of state apprenticeship requirements on WSDOT contracts. The committee assisted WSDOT with developing the specifications and reporting forms used to administer the program, as well as defining criteria for adjusting the requirement on individual contracts. WSDOT and the committee also recommended coordinating federal and state requirements after a pilot project containing both requirements indicated that the two programs can work in concert.

Although additional data is needed to evaluate all aspects of the state apprenticeship program and its effects on WSDOT projects, initial data suggests that the program can be successfully implemented. To date, both of WSDOT's pilot projects are successfully achieving the apprenticeship goal.

The committee will continue to meet to reevaluate the program and lessons learned during the implementation process as more data is developed. The data gathered will be used to make any necessary adjustment to the program and its administration by WSDOT.

Apprentice Utilization by Craft or Trade

SR 9 Scholman Road to 246th and 268th Intersection

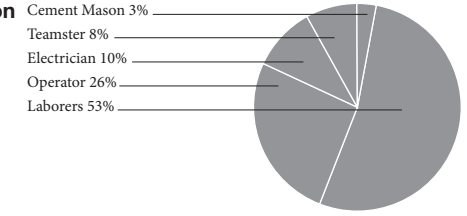


Percentage of apprenticeship achievement to date – 19%

Percent of apprentice hours that were performed by female or minority to date – 52%

Apprentice Utilization by Craft or Trade

Cornwall Road to Hatch Road Dowel Bar



Percentage of apprenticeship achievement to date – 21%

Percent of apprentice hours that were performed by female or minority to date – 80%

Section One – Background

During the 2005 Legislative Session, legislation was passed requiring all public works contracts estimated to cost $1 million or more to include a requirement that no less than 15 percent of the total labor hours on the contract be performed by registered apprentices enrolled in apprenticeship programs approved by the Washington State Apprenticeship and Training Council (WSATC).

State government regularly contracts with the construction industry to provide a skilled workforce to construct public works contracts. The construction labor workforce in Washington State is aging and a smaller percentage of the workforce is choosing to go into the construction trades than historic levels. These workforce trends could cause demand for construction labor to outpace supply. A shortage of skilled workers available to construct public works contracts would have a negative effect on the delivery of state agency public works construction programs. By requiring public works contractors to use apprentice labor on state contracts, the state creates opportunities for training that will assure a skilled workforce is available to construct public works contracts in the future.

The legislation allowed WSDOT to phase in an apprenticeship requirement throughout a two-year period. Beginning July 1, 2007, WSDOT required 10 percent of the total labor hours on contracts estimated to cost $5 million or more to be performed by apprentices. On July 1, 2008, WSDOT will require 12 percent of the total labor hours on contracts estimated to cost $3 million or more to be performed by apprentices. Finally, on July 1, 2009, apprenticeship requirements will be fully phased in when the agency requires 15 percent of the total labor hours on contracts estimated to cost more than $2 million to be performed by apprentices.

Advertisement Date	Engineer's Estimate	Apprentice Labor Requirement
July 1, 2007 – June 30, 2008	$5 M or greater	No less than 10%
July 1, 2008 – June 30, 2009	$ 3 M or greater	No less than 12%
From July 1, 2009 – Forward	$ 2 M or greater	No less than 15%

The legislation also called for the Secretary of Transportation to create and convene an Apprenticeship Utilization Advisory Committee to help guide the department's decision making process in the development, implementation, and administration of this program. The legislation required the committee to include statewide geographic representation and consist of an equal number of representatives of contractors and labor, with at least one member representing contractor businesses with less than 35 members. The legislation also charged the committee with providing this report.

In the summer of 2006, WSDOT selected members and established the Apprenticeship Utilization Advisory Committee. The committee met quarterly to discuss WSDOT implementation of apprenticeship requirements and will continue to do so throughout the phasing in of the apprenticeship requirements. Committee members include:

Linea Laird, State Construction Engineer,
Washington State Department of Transportation

Bob Adams, Regional Vice President,
Guy F. Atkinson Construction L.L.C.

Butch Brooks, General Superintendent,
Woodworth & Co.

Tom Zamzow, Western Division Manager,
Wilder Construction Co.

Bob Abbott, Assistant Business Manager,
District Council of Laborers

Dave Johnson, Executive Secretary,
Washington State Building and Trades Council

John Littel, Legislative Director,
Pacific Northwest Regional Council of Carpenters

Randy Loomans, Director of Government Affairs,
Intl Union of Operating Engineers Local 302

With input from the committee, WSDOT developed technical specifications to be included in construction contracts. The specifications detail apprenticeship participation and reporting requirements necessary for contractors to comply with the requirement. These specifications were reviewed by the construction industry in January 2007. WSDOT and the committee

members worked to educate the agency's pool of contractors and subcontractors about the upcoming requirements and to make the specification and reporting forms available to industry.

Two pilot projects were selected to receive apprenticeship requirements before the July 1, 2007, initial implementation date. One pilot is taking place on the west side of the state, while the other was constructed on the east side of the state. The purpose of the pilot was to test WSDOT's specifications and reporting forms before the legal requirements were effective in July. As noted later in the report, both pilots are successfully achieving the apprenticeship goals to date.

Along with WSDOT's exemption from applying the requirements to contracts advertised before July 1, 2007, and the gradual phase-in of apprenticeship requirements throughout the two years following, WSDOT was also allowed to adjust the requirements for specific projects for the following reasons:

1. Agency Adjustments: Demonstration of a Good Faith Effort to Comply with Requirements

Washington law, RCW 39.04.320, states that awarding agency directors may adjust apprenticeship requirements for a specific project when participating contractors have demonstrated a good faith effort to comply with the requirements. For instance, if programs are either unavailable in an area or unable to provide a contractor with apprentices, the contractor is compliant as long as they have done everything in their power to use available programs and their apprentices.

WSDOT, with input from the Apprenticeship Utilization Advisory Committee, developed criteria that contractors must meet to demonstrate that they strived to meet the requirement.

In fulfilling the good faith effort contractors and their subcontractors must demonstrate that they took specific steps to increase apprentice hours on their contract. The steps are as follows:

1. Solicit apprentices from state-approved apprenticeship training programs
2. Document the solicitation and, in the event apprentices are not available, obtain supporting documents from the solicited programs
3. Demonstrate that the plan for apprentice utilization was updated

Paul Stone, an apprentice on the Cornwall Road to Hatch Road pilot project removes concrete for a dowel bar replacement on US 195.

4. Provide documentation demonstrating what efforts were taken to require subcontractors to solicit and employ apprentices

In the event that the preceding steps have been followed the contractor may also supplement the good faith efforts with:

5. Documentation demonstrating successful apprentice utilization on previous contracts
6. Documentation indicating company wide apprentice utilization efforts and the percentage of attainment.

2. Agency Adjustments: Availability of Apprentices by Geographical Area

RCW 39.04.320 states that awarding agency directors may adjust the requirements for a specific project due to the demonstrated lack of availability of apprentices in a geographical area. Although there is significant coverage of the state by apprenticeship programs, data is not available to provide an indication of how many apprentices could report to a work site in a specific location or region. Establishing criteria for making an adjustment was discussed in detail by the Apprenticeship Utilization Advisory Committee and WSDOT.

The committee acknowledged that the good faith effort allows contractors to comply with the requirement when no apprentices are available in an area. Some committee members, however, felt that if it was known that apprentices were not available in an area, then contractors should not have to make the efforts required to meet the good faith effort and that an adjustment should be made to the apprenticeship requirement. Ultimately,

the committee did not want to reduce or remove requirements on contracts in areas with a demonstrated lack of apprentice availability because without the requirement, there would be no opportunity to increase the demand for apprentice labor in these areas.

WSDOT, at the advice of the Apprenticeship Utilization Advisory Committee, decided that since data regarding the geographic availability of apprentice labor is not easily available, no criteria will be established at this time to make an adjustment to the requirement because of a demonstrated lack of availability of apprentices in any geographic areas of the state.

In absence of data, if a contractor for a WSDOT contract cannot meet the requirement due to a lack of apprentices in the area, the good faith effort will allow them to demonstrate compliance. If WSDOT notices that contracts in a specific area are consistently using good faith due to a lack of apprentices, WSDOT may approach the committee about considering an adjustment to future contracts in that area until more apprentices are available there.

3. Agency Adjustments: High Ratio of Material Costs to Labor Costs

RCW 39.04.320 allows the awarding agency director to adjust apprenticeship requirements based on a disproportionately high ratio of material costs to labor hours which does not make feasible the minimum amount of apprentice participation required by law. WSDOT estimates that labor costs contribute roughly 40 percent to contractor costs on a typical contract. However, the ratio of materials costs to labor costs is highly variable depending on the type of work being performed in a contract and this information is not generally tracked by WSDOT.

The committee's concerns were that if a project had a very high cost associated with materials but very little labor required to construct the work, there would be a smaller opportunity for the contractor to find apprentices, especially if a project used a small number of trades. Each trade has different requirements as to the ratio of apprentices to journeymen that must be present on the site together. The committee's example of a contract that could encounter this problem was a very expensive piece of equipment that would take two people to install. Depending on the trade utilized to install the equipment, it might be impossible to meet the required journeyman to apprentice ratio unless the contractor hired extra journeymen.

WSDOT, with input from the Apprenticeship Utilization Advisory Committee, decided that because it would be difficult to determine in advance which contracts may encounter a problem due to the ratio of materials to labor and journeymen to apprentices, WSDOT will establish a reporting mechanism to allow the contractor to explain why they cannot make the minimum goal. This reporting mechanism is currently under development. As data is generated from the contractors' responses, the committee will evaluate the data to see if additional adjustments to the program are warranted.

3. Agency Adjustments: Other Criteria

RCW 39.04.320 allows the awarding agency director to adjust apprenticeship requirements they deem appropriate based on other criteria, which are subject to review by the office of the governor. To date, WSDOT, with input from the Apprenticeship Utilization Advisory Committee has not identified any other criteria to be reviewed for inclusion as a reason to adjust apprenticeship requirements on a specific project. If potential criteria surfaces, WSDOT and the committee will take further action.

Section Two – Effects of Apprentice Labor Requirements on Transportation Projects

On July 1, 2007, WSDOT began requiring 10 percent of the total labor hours on contracts estimated to cost $5 million or more to be performed by apprentices. As of December 2007 WSDOT is advertising five contracts containing apprenticeship requirements. This section of the report is based on data from the pilots as well as WSDOT's preexisting data on apprenticeship.

Effects of Apprentice Labor Requirements on Transportation Projects: Contract Bids

On March 26, 2007, WSDOT awarded the pilot project SR 9, Schloman Road to 256th Street E in the amount of $10,747,747 to Scarsella Bros., Inc. The advertisement of this project drew 12 proposal holders, six of whom (50 percent) submitted bids on the construction contract. The contract was awarded two percent above the engineer's estimate of $10,542,251.

On April 4, 2007, WSDOT awarded the pilot project US 195, Cornwall Road to Hatch Road Dowel Bar Retrofit and Paving in the amount of $2,994,014 to ACME Concrete Paving. The advertisement of this project drew eight proposal holders, two of whom (25 percent) submitted bids on the construction contract. The contract was awarded 12 percent below the engineer's estimate of $3,396,591.

Effects of Apprentice Labor Requirements on Transportation Projects: Contract Costs

There is no data available to describe the effects of apprentice labor on the cost of WSDOT contracts. When contractors submit bids, they submit bid prices for each item of work. These bid prices include the cost of labor and the contractor's overhead costs. Since there is no bid item for apprenticeship requirements, it is not possible for WSDOT to distinguish what effect, if any, apprenticeship requirements have on the cost of a WSDOT contract. WSDOT contractors mentioned that the administrative management and reporting functions associated with meeting apprenticeship requirements may increase costs on contracts containing the requirement.

Effects of Apprentice Labor Requirements on Transportation Projects: Federal Program

The Federal Highway Administration (FHWA) requires that some federally funded contracts include on-the-job training (OJT) opportunities for minorities and females. The training goal is assigned to the contract as a number of hours that must be performed by trainees. This training may be provided through established national or state apprentice programs or by a FHWA approved project-specific training program. On-the-job trainees do not meet the definition of a state approved apprentice; however female and minority apprentices may fulfill FHWA OJT requirements. This means that some federally funded WSDOT contracts will contain both state and federal training programs with different compliance requirements for contractors.

Before going into greater detail, it is appropriate for us to examine the size of WSDOT's federally funded program compared with state funded contracts to determine what portion of the program is affected. When a WSDOT contract contains any amount of federal dollars, it is considered a federally-funded contract and must comply with FHWA requirements. Our review of contracts since the year 2000 shows that for contracts greater than $2 million 79 percent were federally funded and of these contracts, 60 percent contained training goals.

The percentage of WSDOT's program receiving federal funds is not a constant number. For instance, the ratio of federal to state contracts after the passage of the Nickel and Transportation Partnership Account (TPA) is 70 percent federal and 30 percent state. Before the passage of these programs, the ratio of federal to state contracts was 85 percent federal and 15 percent state. This is due to the fact that the Nickel and TPA funding packages enabled WSDOT to construct many contracts using only state funds. The percentage of state funded to federally funded contracts differs depending on available funding sources.

Since 2000, federal training goals assigned to contracts containing federal funds ranged from 1,500 to 6,000 hours. As contract

WSDOT Contracts Containing Apprenticeship Requirement

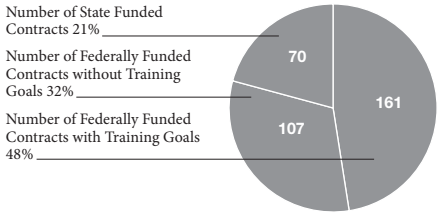
Contract Name	Engineer's Estimate	Award Amount	% Above/Below Estimate	Number of Bidders	Number of Proposal Holders
SR 9, Schloman Rd to 256th Street E	$10,542,251	$10,747,747	2%	6	12
Cornwall Rd to Hatch Rd Dowel Bar Retrofit and Paving	$3,396,591	$2,994,014	-12%	2	8

Section Two – Effects of Apprentice Labor Requirements on Transportation Projects

Estebann Arroyo gains hours toward the completion of his apprenticeship on WSDOT's Schloman Road contract on SR 9.

Federal and State Funded Contracts Fiscal Years 2000-07

Total Number of Contracts: 338



size increases, the size of the state apprenticeship program becomes significantly larger than the federal OJT program. For example, on a $2 million contract the federal training goal would be around 1,500 hours. We estimate for a similar sized contract the state apprenticeship program would require that apprentices perform 2,800 hours. In this sample the federal OJT program would be about half the size of the state apprentice program. On a $10 million contract the federal training goal could be as high as 6,000 hours. On that same contract the state apprentice requirement is estimated to be approximately 17,000 hours, or about three times the size of the federal on-the-job training program.

The challenge is that the contractor must accomplish both the federal OJT program and the state apprenticeship requirement and not all federal trainees utilized will be apprentices. Fortunately, since the year 2000, of the 825 trainees employed 531 were apprentices or 64 percent of the federal trainees. Data suggests that both programs can work in concert to meet both goals.

The Cornwall Road to Hatch Road pilot project contained both a federal on-the-job training requirement of 200 hours and a 10 percent state apprenticeship requirement. Both requirements were met in full by state approved apprentices. Fifty-two percent of the hours performed by apprentices were performed by female or minority apprentices, or 1,889 hours. This greatly exceeds the 200 hour federal training goal placed on the contract and shows that the state apprenticeship program could potentially increase job opportunities for the female and minority trainees.

After the success of this pilot project, WSDOT requested permission from FHWA to extend the pilot program to additional federally funded contracts estimated to cost $5 million or more that will be advertised between July 1, 2007 and June 30, 2008. During the one-year pilot program period, we will collect data and explore how the department's apprenticeship utilization requirement can enhance our attainment of the federal training goals. WSDOT is optimistic that the state apprenticeship program can be administered in a manner that works in concert with, and potentially enhances the results of the federal training program.

Section Three – Statewide Availability of Apprentice Labor

The committee is interested in determining what state-approved apprenticeship programs are available in the state of Washington, where the programs are available, and how many apprentices are registered in each program. With this information, the committee can identify key gaps in trades and work with labor connections to promote programs where there is a need. WSDOT can also use this information to verify that contractors' plans for apprenticeship utilization on individual projects are feasible.

Apprentice Donald Beck works on WSDOT's SR 9 apprenticeship pilot project.

Statewide Availability of Apprentice Labor: State Approved Apprenticeship Training Programs in Washington

In August 2007, WSDOT coordinated with Labor & Industries to provide data about the number and type of state-approved apprenticeship training programs in Washington State, the geographic areas covered by these programs, and the number of apprentices active in each of the programs.

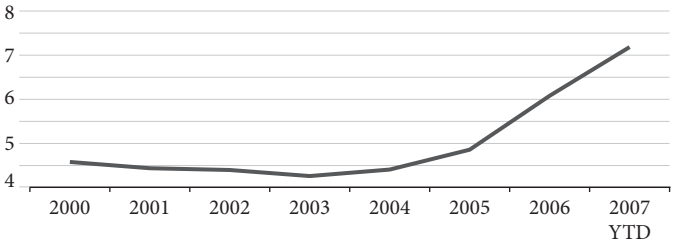
For the purposes of providing information specific to WSDOT contracts, this data includes only programs training the trades most frequently used on WSDOT contracts. These trades are: carpenters, cement masons, electricians, equipment operators, ironworkers, laborers, painters, and Teamsters (truck drivers). Additionally, within each trade, some occupations that are not used on WSDOT contracts have been filtered. For instance, data on electricians is representative of construction electricians and traffic signal electricians and does not include residential wiremen or other electrical occupations typically not employed on a WSDOT construction contract. For a full list of apprenticeship programs and occupations used in this study, see Appendix 1.

The number of apprenticeship programs for trades most commonly used by WSDOT varies by county, with a high of 24 programs in Pacific County to a low of 13 programs in Skagit County. The high number of programs in Pacific, Wahkiakum, Cowlitz, Clark, Skamania, and Klickitat counties is due to a reciprocal agreement between Oregon and Washington. This means that both Washington and Oregon state programs count toward the total in the above counties. The reciprocal agreement allows apprentices in northwestern Oregon to be employed on contracts in southwestern Washington while earning hours toward their completion of the program. This would occur when a contractor, whose principal place of business is in Oregon, is awarded a contract in southwestern Washington and wishes to transport its Oregon-registered apprentices to construct the contract in Washington. Data on the number and type of out-of-state apprenticeship programs has been included in this report. Data on the number of apprentices enrolled in out-of-state programs has not been included in this report or its appendices.

Excluding Pacific, Wahkiakum, Cowlitz, Clark, Skamania, and Klickitat counties, the number of apprenticeship programs varies far less, from a high of 17 programs in Yakima and Kittitas counties to a low of 13 programs in Skagit County. The number of programs on the west side of the state is in line with the number of programs on the east side of the state. Some training programs are available only in portions of counties. This report's count of programs available by county includes the total number of programs and does not differentiate between those that cover the entire county and those that do not.

Section Three – Statewide Availability of Apprentice Labor

Apprenticeship Program Participants
2000 to 2007 Year to Date
Number in Thousands



Statewide Availability of Apprentice Labor: Apprenticeship Program Enrollment

Information about the availability of individual apprentices in each county in Washington State is limited as the geographic requirements of each apprenticeship program are different. Some programs allow apprentices to select fairly small regions they prefer to work in, while others require apprentices to be available to report to work across larger expanses. This report provides the numbers of apprentices by program and overall for the trades most commonly used by WSDOT.

The data examined by WSDOT shows a great effort made by the construction industry to recruit apprentices after passage of the state apprenticeship requirements. Between January 1, 2007, and October 8, 2007, 7,183 apprentices participated in the programs examined by WSDOT. The 7,183 apprentices that participated in 2007 represent an 18 percent increase over the 6,080 apprentices that participated during 2006, and a 43 percent increase over the 4,859 that participated during 2005. Between the 2000 and 2004 the number of participating apprentices remained relatively flat and actually decreased 7 percent between 2000 and 2003. Since 2000, 3,744 apprentices completed training in the programs examined by WSDOT.

Of the 7,183 apprentices that participated in these programs between January 1, 2007, and October 8, 2007, 6,425 were still active in training programs as of October 8, 2007 (the remaining 758 apprentices completed or cancelled their training programs). Current registration varies greatly by program from a high of 1,658 currently active apprentices in carpenter programs to a low of 23 currently active apprentices in the Teamster (truck driver) program.

Statewide Availability of Apprentice Labor: Current WSDOT Attainment on Contracts with Requirements

We predict that WSDOT will award 31 contracts estimated to cost $5 million or more between July 1, 2007, and June 30, 2008. Five of these contracts are currently being advertised. As previously noted, WSDOT awarded just two contracts containing the apprentice utilization requirement: US 195, Cornwall Road to Hatch Road Dowel Bar Retrofit and Paving and SR 9, Schloman Rd to 256th Street E. Work began on both contracts in May 2007.

Active Apprentices as of October 8, 2007

Trade	Number of Active Apprentices	Number of Active Female or Minority Apprentices	Percent of Active Female or Minority Apprentices
Carpenter	1,658	518	31.2%
Cement Mason/Finisher	323	129	39.9%
Construction Electrician	1,380	321	23.2%
Equipment Operator	406	129	31.7%
Ironworker	914	305	33.4%
Laborer	1,209	496	41.0%
Painter/Traffic Control Planner	512	200	39.1%
Teamster	23	16	69.6%
All Trades	**6,425**	**2,114**	**32.9%**

More detailed information including at table showing each apprenticeship program, the counties covered, the number of active registered apprentices as of October 8, 2007, and the number of apprentices that completed the program since 2000 is available in Appendix 1.

Section Three – Statewide Availability of Apprentice Labor

The Cornwall Road to Hatch Road contract, located in Spokane, is physically complete as of November 5, 2007, and is expected to finish work this fall. As of November 2007, the contractor used 18 apprentices in five different trades for a total of 3,645 hours. This reflects a 19 percent utilization rate to date. The participating trades include cement masons, equipment operators, laborers, electricians, and Teamsters. The hours reported exceed what was planned. The contractor's plan estimates a 10 percent utilization rate. This contract also contains federal funds and contains a small on-the-job training goal of 200 hours. Of the 3,645 hours performed by apprentices, 1,889 hours, or 52 percent were performed by female or minority apprentices.

The SR 9, Schloman Road contract, located northwest of Arlington, is approximately one-third complete and is expected to be completed in 2009. As of December 2007, the contractor used 16 apprentices in three different trades for a total of 5,894 hours. This reflects a 23 percent utilization rate to date. The participating trades include equipment operators, laborers, carpenters, ironworkers and Teamsters. The hours reported currently exceed what was planned. The contractor's plan estimates a 10 percent apprenticeship utilization rate. Of the 5,894 hours performed by apprentices, 3,195 hours, or 80 percent were performed by female or minority apprentices.

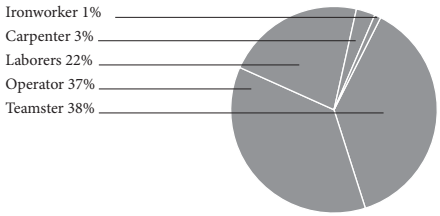
Statewide Availability of Apprenticeship Labor: Current WSDOT Attainment on Contracts without Requirements

In 2003, WSDOT began reporting current levels of apprentice and trainee employment on all contracts containing federal funds to FHWA. This information counts each individual employed and provides information about the number of apprentices employed in each trade. This report does not track hours worked by apprentices. WSDOT does not track this type of employment information on projects that do not receive federal funding.

The reports shows that from 2003 to 2006, 6.1 percent of employees working in the trades most commonly used by WSDOT were apprentices. Utilization rates by year show that the percentage of apprentices has gone up in recent years from a low of 3.3 percent in 2004 to a high of 11.0 percent in 2006. These numbers are in line with the recent growth experienced in state-approved apprenticeship programs. For more information, see Appendix 2.

Apprentice Utilization by Craft or Trade

SR 9 Scholman Road to 246th and 268th Intersection



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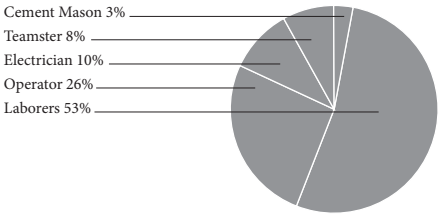
Percent of apprentice hours that were performed by female or minority to date – 52%

Apprentice Utilization by Craft or Trade

Cornwall Road to Hatch Road Dowel Bar



Percentage of apprenticeship achievement to date – 21%

Percent of apprentice hours that were performed by female or minority to date – 80%

Conclusion

WSDOT and the Apprenticeship Utilization Advisory Committee worked well together to develop a program that supports the successful implementation of state apprenticeship requirements on WSDOT projects. The committee assisted WSDOT in defining criteria for adjusting apprenticeship requirements on individual projects and developing processes and reporting requirements for these adjustments. The committee provided input to finalize WSDOT's technical specification detailing apprenticeship participation and reporting requirements for WSDOT's contractors. WSDOT and the committee recommended the coordination of federal training requirements and state apprenticeship requirements on WSDOT projects. They also tested WSDOT's specification and reporting forms by placing apprenticeship requirements on two pilot projects and oversaw the progress of this successful effort.

Although additional data is needed to evaluate all aspects of the state apprenticeship program and its effects on WSDOT projects, initial data suggests that the program can be successfully implemented. Data from WSDOT's pilot projects illustrates that the apprenticeship goals can be met without affecting project bids. Data from the Cornwall Road to Hatch Road pilot project shows that federal training goals can be met by state-approved apprentices and suggests that the two programs may work in concert. Although WSDOT does not track the number of apprentices and trainees employed on all construction contracts, data from the projects WSDOT has tracked suggests that a majority of trainees are state approved apprentices. Data on the availability of apprenticeship programs illustrates that programs are available statewide in the each of the trades most commonly used to construct WSDOT projects. Data also shows that enrollment in these programs has increased during the past three years.

The committee will continue to meet to reevaluate the program and lessons learned during the implementation process as more data is developed. WSDOT's Apprenticeship Utilization Advisory Committee plans to meet quarterly throughout the implementation phase of the apprenticeship requirements until July 1, 2009. During this time, the committee will review data generated by contracts containing the apprenticeship requirement. This data will be used to make necessary adjustments to the program and its administration by WSDOT.

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Appendix 1: Apprenticeship Availability by County

State Approved Programs for Trades Most Commonly Used by WSDOT

Trade	Program Name	Adams	Asotin	Benton	Chelan	Clallam	Clark	Columbia	Cowlitz	Douglas	Ferry	Franklin	Garfield	Grant	Grays Harbor	Island	Jefferson	King	Kitsap	Kittitas	Klickitat	Lewis	Lincoln	Mason	Okanogan	Pacific	Pend Oreille	Pierce	San Juan	Skagit	Skamania	Snohomish	Spokane	Stevens	Thurston	Wahkiakum	Walla Walla	Whatcom	Whitman	Yakima	Number of Active Apprentices	Number of Apprentices that Completed Program 2000 - 2007 YTD
Carpenter	Washington State UBC JATC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1520	313
Carpenter	CITC of WA - Carpenter	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	121	48
Carpenter	INC/AGC Carpenters	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓						✓			✓		✓		✓					✓	✓				✓		✓	✓	17	22
Carpenter	*Oregon/Columbia Carpenters JATC*						✓		✓												✓					✓					✓					✓					*	*
Carpenter	*Oregon SW WA Carpenters JATC*						✓		✓																	✓					✓					✓					*	*
Cement Mason	W WA Cement Masons Apprenticeship					✓			✓						✓	✓	✓	✓	✓			✓		✓		✓		✓	✓			✓			✓	✓		✓			291	138
Cement Finisher	E WA and N ID Cement Masons	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓						✓	✓		✓		✓		✓					✓	✓				✓		✓	✓	32	19
Cement Mason	*OR Columbia Masons TATC*						✓		✓												✓					✓					✓					✓					*	*
Cement Mason	*OR & SW WA Cement Masons JATC*						✓														✓										✓										*	*
Construction Electrician	I.E.C. of Washington	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	292	138
Construction Electrician	CITC of WA Electrical	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	104	62
Outdoor Lighting and Traffic Signal Installer	Signal Electric Apprenticeship	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	4
Outdoor Lighting and Traffic Signal Installer	Transtech Electric Apprenticeship Committee	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	10	4
Construction Electrician	Inland Empire Electrical Training	✓									✓												✓				✓						✓	✓					✓		126	106
Construction Electrician	LU 112 - NECA Electrical		✓	✓				✓				✓	✓							✓															✓				✓	97	168
Construction Electrician	Puget Sound Electrical JATC					✓											✓	✓	✓																						539	773
Construction Electrician	SW WA Electrical JATC														✓							✓		✓		✓		✓							✓						202	245
Construction and Industrial Electrician	Cowlitz and Wahkiakum Electrical								✓																										✓						0	17
Construction Electrician	*NECA-IBEW Electrical JATC*						✓														✓										✓										*	*
Electrician	*Area 1 Inside Electrical JATC*						✓		✓												✓					✓					✓										*	*
Construction Equipment Operator	CITC of WA - Const Equip Operator	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	26	7
Construction Equipment Operator	INC/AGC - Operators	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓						✓			✓		✓		✓					✓	✓				✓		✓	✓	23	11
Construction Equipment Operator	Western States Engineers Training	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓						✓			✓		✓		✓					✓	✓				✓		✓	✓	70	22
Construction Equipment Operator	Operating Engineers Reg Tng Prog JATC				✓	✓				✓					✓	✓	✓	✓	✓	✓		✓		✓	✓	✓		✓	✓	✓		✓			✓			✓		✓	287	182
Operating Engineer	*OR SW WA IUOE Local 701 & AGC*						✓		✓												✓					✓					✓					✓					*	*
Operating Engineer	*Oregon Columbia Heavy Equipment Operators JATC*						✓		✓												✓					✓					✓					✓					*	*
Ironworker	Pacific NW Ironworkers #14	✓	✓	✓				✓		✓	✓	✓	✓	✓									✓		✓		✓					✓	✓				✓		✓		226	103
Ironworker	Pacific NW Ironworkers #86				✓	✓									✓	✓	✓	✓	✓	✓		✓		✓		✓		✓	✓	✓		✓			✓			✓		✓	688	329
Ironworker	*Pacific NW Ironworker & Employer JATC*						✓		✓												✓					✓					✓					✓					*	*
Laborer / Laborer (Shipyard Worker)	Northwest Laborers Apprenticeship	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1209	760
Laborer	*SW WA AGC Laborers Committee*						✓		✓												✓					✓					✓					✓					*	*
Painter and Decorator	E WA & N ID Painters & Allied Trades	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓						✓	✓		✓		✓		✓					✓	✓				✓		✓	✓	73	12
Painter and Decorator	CITC of WA - Painter					✓									✓	✓	✓	✓	✓	✓		✓		✓		✓		✓	✓	✓		✓			✓			✓			14	0
Painter Decorator, Traffic Control Painter	W WA Painting, Decorating & Drywall					✓									✓	✓	✓	✓	✓			✓		✓		✓		✓	✓	✓		✓			✓			✓			425	233
Painter	*W OR SW WA Painters JATC*						✓		✓												✓					✓					✓					✓					*	*
Teamster	WA Construction Teamsters	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	23	28
All Trades	**All Programs**	**16**	**16**	**16**	**16**	**15**	**20**	**16**	**20**	**16**	**16**	**16**	**16**	**15**	**15**	**14**	**15**	**15**	**15**	**17**	**21**	**15**	**16**	**15**	**16**	**24**	**16**	**15**	**14**	**13**	**20**	**14**	**16**	**16**	**15**	**19**	**16**	**14**	**16**	**17**	**4905**	**3744**
		Adams	Asotin	Benton	Chelan	Clallam	Clark	Columbia	Cowlitz	Douglas	Ferry	Franklin	Garfield	Grant	Grays Harbor	Island	Jefferson	King	Kitsap	Kittitas	Klickitat	Lewis	Lincoln	Mason	Okanogan	Pacific	Pend Oreille	Pierce	San Juan	Skagit	Skamania	Snohomish	Spokane	Stevens	Thurston	Wahkiakum	Walla Walla	Whatcom	Whitman	Yakima	All Counties / All Programs / All Trades	All Counties / All Programs / All Trades

Source: Department of Labor and Industries Apprenticeship Registration and Tracking System, October 8, 2007

**Note: Apprentice enrollment for out-of-state programs supplying apprentices through the reciprocal agreement is not available through the Apprenticeship Registration and Tracking System.*

Appendix 2: WSDOT Federal-Aid Highway Construction Contracts

Percent Apprentice Labor on Federal-Aid Highway By Number of Apprentices

2003

Trade	Total Employed	Total Apprentice	Percent Apprentice
Equipment Operators	708	27	3.8%
Truck Drivers	474	13	2.7%
Ironworkers	96	8	8.3%
Carpenters	175	9	5.1%
Cement Masons	65	8	12.3%
Electricians	148	61	41.2%
Painters	133	14	10.5%
Laborers	1429	42	2.9%
All Trades	**3228**	**182**	**5.6%**

2004

Trade	Total Employed	Total Apprentice	Percent Apprentice
Equipment Operators	854	29	3.4%
Truck Drivers	767	4	0.5%
Ironworkers	39	7	17.9%
Carpenters	176	11	6.3%
Cement Masons	61	3	4.9%
Electricians	76	24	31.6%
Painters	52	0	0.0%
Laborers	1468	39	2.7%
All Trades	**3493**	**117**	**3.3%**

2005

Trade	Total Employed	Total Apprentice	Percent Apprentice
Equipment Operators	1062	28	2.6%
Truck Drivers	636	0	0.0%
Ironworkers	101	27	26.7%
Carpenters	264	27	10.2%
Cement Masons	137	18	13.1%
Electricians	152	42	27.6%
Painters	14	2	14.3%
Laborers	1583	75	4.7%
All Trades	**3949**	**219**	**5.5%**

2006

Trade	Total Employed	Total Apprentice	Percent Apprentice
Equipment Operators	153	56	36.6%
Truck Drivers	465	37	8.0%
Ironworkers	77	21	27.3%
Carpenters	230	29	12.6%
Cement Masons	133	24	18.0%
Electricians	159	41	25.8%
Painters	16	1	6.3%
Laborers	1478	90	6.1%
All Trades	**2711**	**299**	**11.0%**

2003-2006

Trade	Total Employed	Total Apprentice	Percent Apprentice
Equipment Operators	2777	140	5.0%
Truck Drivers	2342	54	2.3%
Ironworkers	313	63	20.1%
Carpenters	845	76	9.0%
Cement Masons	396	53	13.4%
Electricians	535	168	31.4%
Painters	215	17	7.9%
Laborers	5958	246	4.1%
All Trades	**13381**	**817**	**6.1%**